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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,031	05/31/2001	Tekeshi Tobinaga	49602	7731

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WASHINGTON, DC 20036

EXAMINER

CREPEAU, JONATHAN

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 08/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicati n No.

09/857,031

Applicant(s)

TOBINAGA ET AL.

Examiner

Jonathan S. Crepeau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) 19-25, 29 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 11-18 and 26-28 in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the Examiner erred in determining that (a) claim 11 does not avoid the prior art, and (b) there is not an "inventive link" among the sets of dependent claims and the independent claim. This is not found persuasive because as set forth below, claim 11 is anticipated by several of the references of record. Thus, the Examiner maintains the position that claim 11 does not avoid the prior art. Furthermore, MPEP §1850(A) sets forth that if an independent claim does not avoid the prior art, then "the question of whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered. If there is no link remaining, an objection of lack of unity (that is, arising only after assessment of the prior art) may be raised." In this case, there is not believed to be an "inventive link" among the sets of dependent claims which depend on claim 11. The term "inventive link" is interpreted herein to mean a feature which is common to all claims *and* which makes a contribution over the prior art. This is similar to a "special technical feature." The feature common to all claims in the present application, i.e., the subject matter of claim 11, does not make a contribution over the prior art and thus cannot be considered an "inventive link." The Examiner acknowledges Applicant's citation of Example 13 of Annex B, Part 2 of the PCT. However, the Examiner asserts that the situation presented by the example is not identical to the present situation because the example does not state if claim 1 avoids the prior art or not. It

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appears that in all the examples of Annex B, the claims avoid the prior art. This is not the case in the present situation.

The requirement is still deemed proper and is therefore made FINAL. However, rejoinder of the non-elected claims will be considered upon allowance of claim 11.

Claim Objections

2. Claims 15-18 are objected to because of the following informalities: in the third-to-last line of each claim, "poly(tetrafluoroethylene)" should be "poly(tetrafluoroethylene)." Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 26-28 provide for the use of a membrane, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 26-28 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a

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process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 11, 12, 14, 15, 16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 591782, as evidenced by EP 708454. Schultze et al (U.S. Patent 6,001,464) is taken as an English-language equivalent of EP 591782. Regarding claims 11, 15, 16, and 18, Schultze et al. '464 teach a membrane comprising 20 wt% polyurethane and 3.5 wt% silica in Example 1.

Regarding claim 12, the polyurethane is a thermoplastic elastomer (see col. 3, line 44).

Regarding claims 11 and 14, the polyurethane is a segmented polyurethane comprising urethane segments and ester segments (see Example 1). Regarding claim 11, the urethane segments are inherently "hard," and the ester segments are inherently "soft." See page 9, lines 47-50 of EP 708454.

Thus, the instant claims are anticipated.

7. Claims 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 8-59981. Regarding claims 11 and 12, in the abstract, the reference teaches a membrane comprising 100 weight parts of polyurethane-based resin (containing 75-95 wt% thermoplastic polyurethane elastomer) and 5-40 weight parts of a filler. Regarding claim 11, in paragraph 14 (Example 1) and Table 1 of the translation, the reference teaches that the polyurethane elastomer is present in an amount of 85 weight parts, ^{ethylene propylene diene} EPDM is present in an amount of 15 weight parts, and the filler is present in an amount of 30 weight parts. Thus, the polyurethane comprises 65.4 wt% of the total, and the filler comprises 23.1 wt% of the total. This is considered anticipatory of the ranges recited in claim 11. Regarding claims 13 and 15-18, the filler of Example 1 is calcium carbonate having an average particle size of 2 microns. Regarding claims 15-18, the filler may also comprise various oxides, sulfates, and carbonates (see paragraph 10). Regarding claims 11 and 14, the polyurethane is a segmented polyurethane comprising urethane segments and soft ether segments (see abstract). Regarding claim 11, the urethane segments are inherently "hard."

Thus, the instant claims are anticipated.

8. Claims 11-18 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang et al (U.S. Patent 5,346,788). Regarding claims 26-28, Chang et al. teach a polyurethane-based membrane used as an electrochemical cell separator in the abstract. Regarding claim 11, the membrane comprises a filler (see abstract). Regarding claims 15-18, the filler may comprise various oxides, carbonates, minerals, and silicates (see col. 8, line 34-52). Regarding claim 13, the particle size of the filler is preferably 0.01-50 microns (see col. 8, line 26). Since this range

overlaps with the range recited in claim 13, it anticipates the range in the overlapping portion (0.01-30 microns). Furthermore, Example 1 teaches a specific silica filler particle size of 10 microns, which also anticipates the range of claim 13. Regarding claim 12, the polyurethane is thermoplastic (see abstract). Regarding claim 11, the reference teaches in Example 1 that the separator contains 120 weight parts of polyurethane and 150 weight parts of silica. This anticipates the claimed ranges because it results in 44 wt% polyurethane and 56 wt% silica, relative to the combined amount of polyurethane and silica. Regarding claim 11, the polyurethane is a segmented polyurethane comprising hard segments and soft segments (see col. 4, lines 19-48). Regarding claim 14, the soft segments comprise ether linkages (see col. 5, line 44-col. 6, line 5).

Thus, the instant claims are anticipated.

Conclusion

9. The following notes are made with respect to the references cited in the International Search Report which bear an "X" label:

WO 95/10860 does not anticipate the claims because while it teaches a composition comprising 20.379 wt% urethane acrylate and 10.72 wt% LiPF₆ on page 31, the LiPF₆ is not considered to be a "solid" because it is dissolved in the electrolyte solution.

EP 708454 does not anticipate the claims because while it teaches a relevant composition, it does not expressly teach that the composition is in the form of a "membrane."

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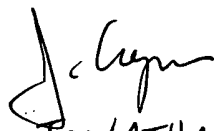
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (703) 305-0051. The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski, can be reached at (703) 308-4333. The phone number for the organization where this application or proceeding is assigned is (703) 305-5900. Additionally, documents may be faxed to (703) 872-9310 (for non-final communications) or (703) 872-9311 (for after-final communications).

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

JSC

August 9, 2003


JONATHAN CREPEAU
PATENT EXAMINER
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